X-RAY ILLUMINATORS

Technical Publication

TECHLINE ILLUMINATOR 200, 300, 400 SERIES

Operating Documentation

Installation
Operation
Maintenance

Document #TP1000
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REV 1/15/2005

CAUTION!! Do not attempt any maintenance on this equipment unless the unit is disconnected from the power source.

Read Immediately:

All packages must be closely inspected for damage upon receipt. Compare the quantity listed on the packing slip with the bill of lading. **Any damage or shortage to the shipment must be noted on the bill of lading at the time of delivery.**

Once a bill of lading is signed for, the likelihood of collecting any amount on a concealed freight claim is significantly reduced.

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Thank you!

Dear Valued MAXANT Customer:

Thank you for your purchase of MAXANT illuminators. MAXANT takes pride in ensuring that you and your facility enjoy many years of quality illuminator performance. We very much appreciate your business and look forward to the opportunity to serve you again.

If you have any questions or comments, please contact your local MAXANT dealer or call us directly at 800-307-4190.

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1.0 Introduction

This manual covers dimensional information, operational instructions and technical specifications for the TECHLINE 200, 300 and 400 series illuminators. These devices are intended to aid in the reading of medical x-ray films using back lighting. All TECHLINE illuminators utilize a universal body design that offers two-, three- or four-lamps per panel. All TECHLINE illuminators are shipped with lamps ready to install and operate. The exception is DVC series, which requires some field assembly. Remove the shipping tape from the lamp sockets before operating. Configurations are offered from a single viewing panel to six-over-six panels, surface or recess mounted.

2.0 Standard and Optional TECHLINE Features

Standard features include:

- Cluster Switching
- Roller Gravity Film Grip
- Minimal 1.8" separation between upper and lower tier
- Easy maintenance and easy lamp replacement

The following chart describes the features of the standard TECHLINE series:

	Certification	Film Switch	Dual Intensity	Number of lamps
200 Series	UL187/CSA114	Optional	N/a	2
300 Series	UL187/CSA114	Optional	Optional	3
400 Series	UL187/CSA114	Optional	Optional	4

Additional optional features (all are standard on UL60601-1 certified fixtures) for the TECHLINE as a Class One continuous operation medical device:

- Certification to UL60601-1 (EN60601-1) and CE
- Double Pole Master Switch
- Hospital grade plug
- Dual fusing
- Additional filtering for conducted emissions on multi-panel units
- Meets NFPA 99

3.0 Product Specifications – Electrical and Illumination

WARNING: USE ONLY SPECIFIED FUSE SIZES AND TYPE

Series	Voltage	Current	Power	Leakage	NITS/Unit	Power	No. Of	Fuse
TS & TR	60 Hz	Amps	Watts	Micro-amps	CD/M*M	Factor	Panels	Amps
TS201/TR201	117.5	0.30	32.50	29	2470	0.922	1	1
TS202/TR202	117.5	0.60	65.00	58.00	2470	0.922	2	1
TS203/TR203	117.5	0.90	97.50	87.00	2470	0.922	3	2
TS204/TR204	117.5	1.20	130.00	116.00	2470	0.922	4	2
TS205/TR205	117.5	1.50	162.50	145.00	2470	0.922	5	2
TS206/TR206	117.5	1.80	195.00	174.00	2470	0.922	6	4
TS211/TR211	117.5	0.60	65.00	58.00	2470	0.922	2	1
TS222/TR222	117.5	1.20	130.00	116.00	2470	0.922	4	2
TS233/TR233	117.5	1.80	195.00	174.00	2470	0.922	6	2
TS244/TR244	117.5	2.40	260.00	232.00	2470	0.922	8	4
TS255/TR255	117.5	3.00	325.00	290.00	2470	0.922	10	4
TS266/TR266	117.5	3.60	390.00	348.00	2470	0.922	12	6.3
TS301/TR301	117.5	0.42	46.20	27.15	3900	0.927	1	1
TS302/TR302	117.5	0.85	92.40	54.30	3900	0.927	2	1
TS303/TR303	117.5	1.27	138.60	81.45	3900	0.927	3	2
TS304/TR304	117.5	1.70	184.80	108.60	3900	0.927	4	2
TS305/TR305	117.5	2.12	231.00	135.75	3900	0.927	5	3.15
TS306/TR306	117.5	2.54	277.20	162.90	3900	0.927	6	3.15
TS311/TR311	117.5	0.85	92.40	54.30	3900	0.927	2	1
TS322/TR322	117.5	1.70	184.80	108.60	3900	0.927	4	2
TS333/TR333	117.5	2.54	277.20	162.90	3900	0.927	6	3.15
TS344/TR344	117.5	3.39	369.60	217.20	3900	0.927	8	4
TS355/TR355	117.5	4.24	462.00	271.50	3900	0.927	10	6.3
TS366/TR366	117.5	5.09	554.40	325.80	3900	0.927	12	6.3
TS401/TR401	117.5	0.46	50.10	24	4350	0.937	1	1
TS402/TR402	117.5	0.91	100.20	58.00	4350	0.937	2	1
TS403/TR403	117.5	1.37	150.30	87.00	4350	0.937	3	2
TS404/TR404	117.5	1.82	200.40	116.00	4350	0.937	4	2
TS405/TR405	117.5	2.28	250.50	145.00	4350	0.937	5	3.15
TS406/TR406	117.5	2.73	300.60	174.00	4350	0.937	6	3.15
TS411/TR411	117.5	0.91	100.20	58.00	4350	0.937	2	2
TS422/TR422	117.5	1.82	200.40	116.00	4350	0.937	4	2
TS433/TR433	117.5	2.73	300.60	174.00	4350	0.937	6	3.15
TS444/TR444	117.5	3.64	400.80	232.00	4350	0.937	8	4
TS455/TR455	117.5	4.55	501.00	290.00	4350	0.937	10	6.3
TS466/TR466	117.5	5.46	601.20	348.00	4350	0.937	12	6.3

Series	Voltage	Current	Power	Leakage	NITS/Unit	Power	No. Of	Fuse
TS & TR	50 Hz	Amps	Watts	Micro-amps	CD/M*M	Factor	Panels	Amps
TS201/TR201	230	0.15	32.50	29	2470	0.922	1	1
TS202/TR202	230	0.30	65.00	58.00	2470	0.922	2	1
TS203/TR203	230	0.45	97.50	87.00	2470	0.922	3	1
TS204/TR204	230	0.60	130.00	116.00	2470	0.922	4	1
TS205/TR205	230	0.75	162.50	145.00	2470	0.922	5	1
TS206/TR206	230	0.90	195.00	174.00	2470	0.922	6	2
TS211/TR211	230	0.30	65.00	58.00	2470	0.922	2	1
TS222/TR222	230	0.60	130.00	116.00	2470	0.922	4	1
TS233/TR233	230	0.90	195.00	174.00	2470	0.922	6	2
TS244/TR244	230	1.20	260.00	232.00	2470	0.922	8	2
TS255/TR255	230	1.50	325.00	290.00	2470	0.922	10	2
TS266/TR266	230	1.80	390.00	348.00	2470	0.922	12	3.15
TS301/TR301	230	0.21	46.20	27.15	3900	0.927	1	1
TS302/TR302	230	0.42	92.40	54.30	3900	0.927	2	1
TS303/TR303	230	0.63	138.60	81.45	3900	0.927	3	1
TS304/TR304	230	0.85	184.80	108.60	3900	0.927	4	2
TS305/TR305	230	1.06	231.00	135.75	3900	0.927	5	2
TS306/TR306	230	1.27	277.20	162.90	3900	0.927	6	2
TS311/TR311	230	0.43	92.40	54.30	3900	0.927	2	1
TS322/TR322	230	0.85	184.80	108.60	3900	0.927	4	2
TS333/TR333	230	1.27	277.20	162.90	3900	0.927	6	2
TS344/TR344	230	1.7	369.60	217.20	3900	0.927	8	3.15
TS355/TR355	230	2.14	462.00	271.50	3900	0.927	10	3.15
TS366/TR366	230	2.55	554.40	325.80	3900	0.927	12	3.15
TS401/TR401	230	0.23	50.10	24	4350	0.937	1	1
TS402/TR402	230	0.46	100.20	58.00	4350	0.937	2	1
TS403/TR403	230	0.68	150.30	87.00	4350	0.937	3	1
TS404/TR404	230	0.92	200.40	116.00	4350	0.937	4	2
TS405/TR405	230	1.14	250.50	145.00	4350	0.937	5	2
TS406/TR406	230	1.4	300.60	174.00	4350	0.937	6	2
TS411/TR411	230	0.46	100.20	58.00	4350	0.937	2	1
TS422/TR422	230	0.91	200.40	116.00	4350	0.937	4	2
TS433/TR433	230	1.4	300.60	174.00	4350	0.937	6	2
TS444/TR444	230	1.85	400.80	232.00	4350	0.937	8	3.15
TS455/TR455	230	2.3	501.00	290.00	4350	0.937	10	3.15
TS466/TR466	230	2.8	601.20	348.00	4350	0.937	12	4

This measured data is considered typical and nominal. Data may vary from unit to unit.

3.1 Ballast

Electronic, Class P, Type 1, Low Leakage.

3.2 Lamps

Type F15T8/D daylight type fluorescent lamp

3.3 Line Cord

Grounded chassis with 8-foot, 3-wire line cord
NEMA 5-15P, 2-pole, 3-wire ground
Hospital grade cord and plug for UL60601-1 units

3.4 Radiated or Conducted Emissions

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC rule. It has also been tested and found to comply with CISPR 15 for Class One medical devices. These limits are designed to provide reasonable protection against harmful interference to other electronic equipment and radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other electrical equipment or radio/television reception, try one of the following corrective measures:

- Relocate the electronic equipment or its receiving antenna.
- Increase the distance between the illuminator(s) and the electronic equipment that is exhibiting interference.
- Connect the illuminator(s) to an outlet on a different circuit than the interfered electronic equipment.
- Consult the dealer or an experienced radio technician for help.

3.5 Fuses (UL or EN 60601-1 only)

Use only fuse IEC Fast-acting type 5x20mm ceramic. See tables for correct fuse size. **FUSE MUST BE UL, SEMCO, BSI, VDE, CSA, AND MITI LISTED**. Please place the order with your Maxant distributor. The “Littlefuse Co.” type 216 series is a qualified fuse.

3.6 Light Output

These light levels are taken from procedures specified by the German DIN6865 standard. Currently this is the only published standard for evaluating the luminance levels of x-ray illuminators. These levels were measured under the following conditions: an ambient temperature of 21° Celsius (70° Fahrenheit), 118 Volt line voltage, and new lamps that were allowed to be on for 2 hours before the measurements were made. Light levels measured in the field may vary with the local environment, including: lamp age, line voltage, ambient temperature, and lamp temperature. The measurements published here are subject to change without notice.

4.0 Product Specifications - Mechanical

4.1 Body Construction

- 18-gauge welded steel construction
- Multi-panel configurations manufactured as an integral assembly
- 3” deep body

4.2 Diffusing Panel

- Easily removed to replace lamps – no tools required
- Shatter resistant, UL recognized MC thermoplastic

4.3 Film Grip

- Self-adjusting roller-gravity film grip accommodates every film thickness.
- Will not scratch or tear film
- Open sides facilitate viewing of oversized films
- Bottom film ledge accommodates small film formats

5.0 Dimensional and Shipping Weight Information

SURFACE MOUNT

Number Of Panels	Viewing Area Inches	Fixture Length Inches	Fixture Height Inches	Model Number	Weight Lbs.	Model Number	Weight Lbs.	Model Number	Weight Lbs.
Single Panel 14x17	14x17	14	21	TS201	17.5	TS301	18	TS401	18.5
2 panels side by side	28x17	28	21	TS202	33	TS302	37	TS402	37
3 Panels side by side	42x17	42	21	TS203	50	TS303	56	TS403	56
4 Panels side by side	56x17	56	21	TS204	65	TS304	75	TS404	75
5 Panels side by side	70x17	70	21	TS205	83	TS305	94	TS405	94
6 Panels side by side	84x17	84	21	TS206	101	TS306	113	TS406	113
1 Over 1	2x14x17	14	42	TS211	33	TS311	37	TS411	37
2 over 2	2x28x17	28	42	TS222	67	TS322	75	TS422	75
3 over 3	2x42x17	42	42	TS233	101	TS333	113	TS433	113
4 over 4	2x56x17	56	42	TS244	134	TS344	150	TS444	150
5 over 5	2x70x17	70	42	TS255	278	TS355	298	TS455	298
6 over 6	2x84x17	84	42	TS266	322	TS366	346	TS466	346

RECESSED MOUNT

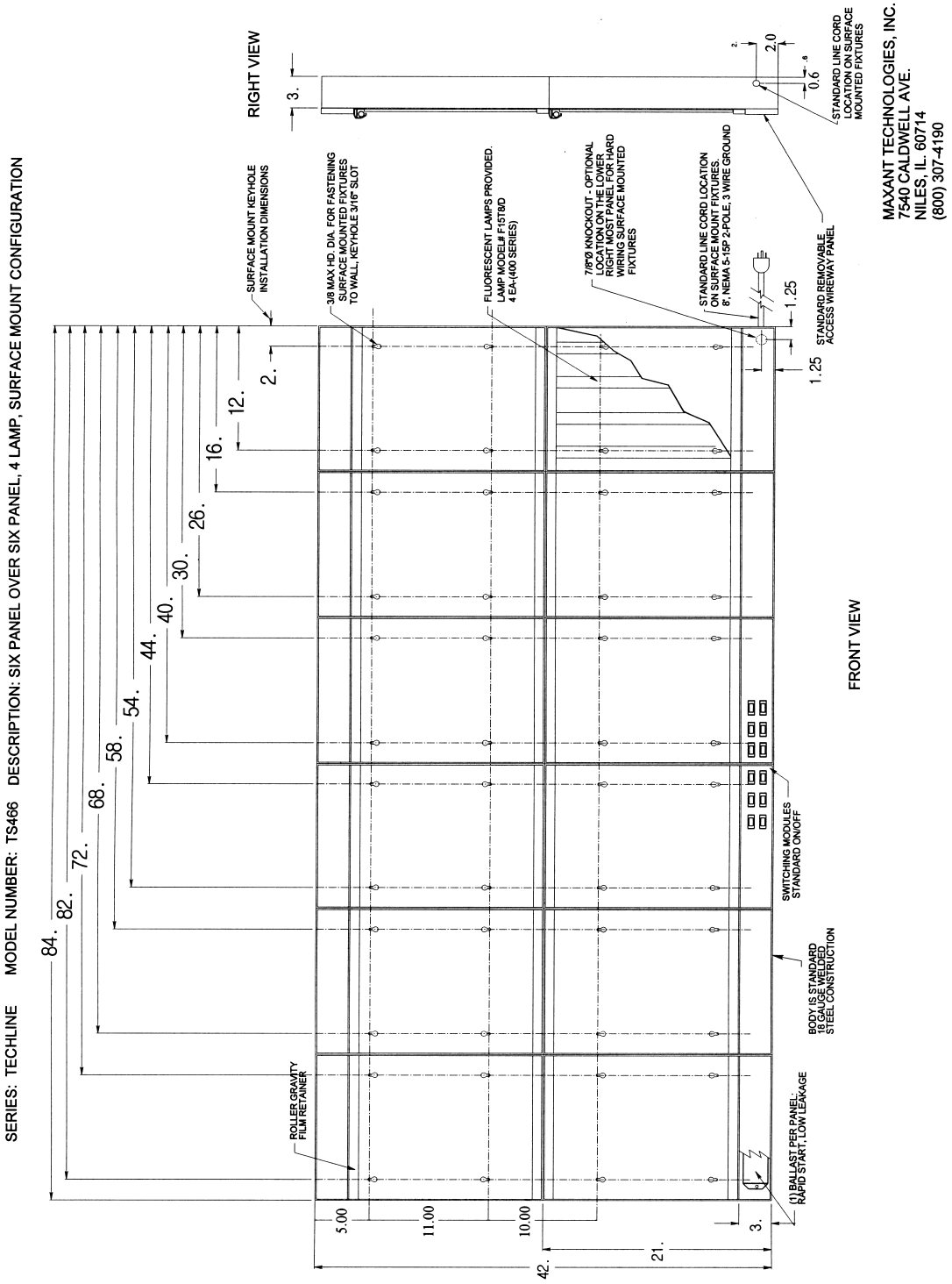
Number Of Panels	Viewing Area Inches	Wall Cut-Out** Length x Height Inches	Model Number	Weight Lbs.	Model Number	Weight Lbs.	Model Number	Weight Lbs.
Single Panel 14x17	14x17	14.75x21.75	TR201	17	TR301	19	TR401	19
2 panels side by side	28x17	28.75x21.75	TR202	33	TR302	37	TR402	37
3 Panels side by side	42x17	42.75x21.75	TR203	50	TR303	56	TR403	56
4 Panels side by side	56x17	56.75x21.75	TR204	67	TR304	75	TR404	75
5 Panels side by side	70x17	70.75x21.75	TR205	84	TR305	94	TR405	94
6 Panels side by side	84x17	84.75x21.75	TR206	101	TR306	113	TR406	113
1 Over 1	2x14x17	14.75x42.75	TR211	33	TR311	37	TR411	37
2 over 2	2x28x17	28.75x42.75	TR222	67	TR322	75	TR422	75
3 over 3	2x42x17	42.75x42.75	TR233	101	TR333	113	TR433	113
4 over 4	2x56x17	56.75x42.75	TR244	134	TR344	150	TR444	150
5 over 5	2x70x17	70.75x42.75	TR255	278	TR355	298	TR455	298
6 over 6	2x84x17	84.75x42.75	TR266	322	TR366	346	TR466	346

**Overall recessed fixture dimensions, including recessed trim length and height, are each 3” greater than the surface mount dimensions.

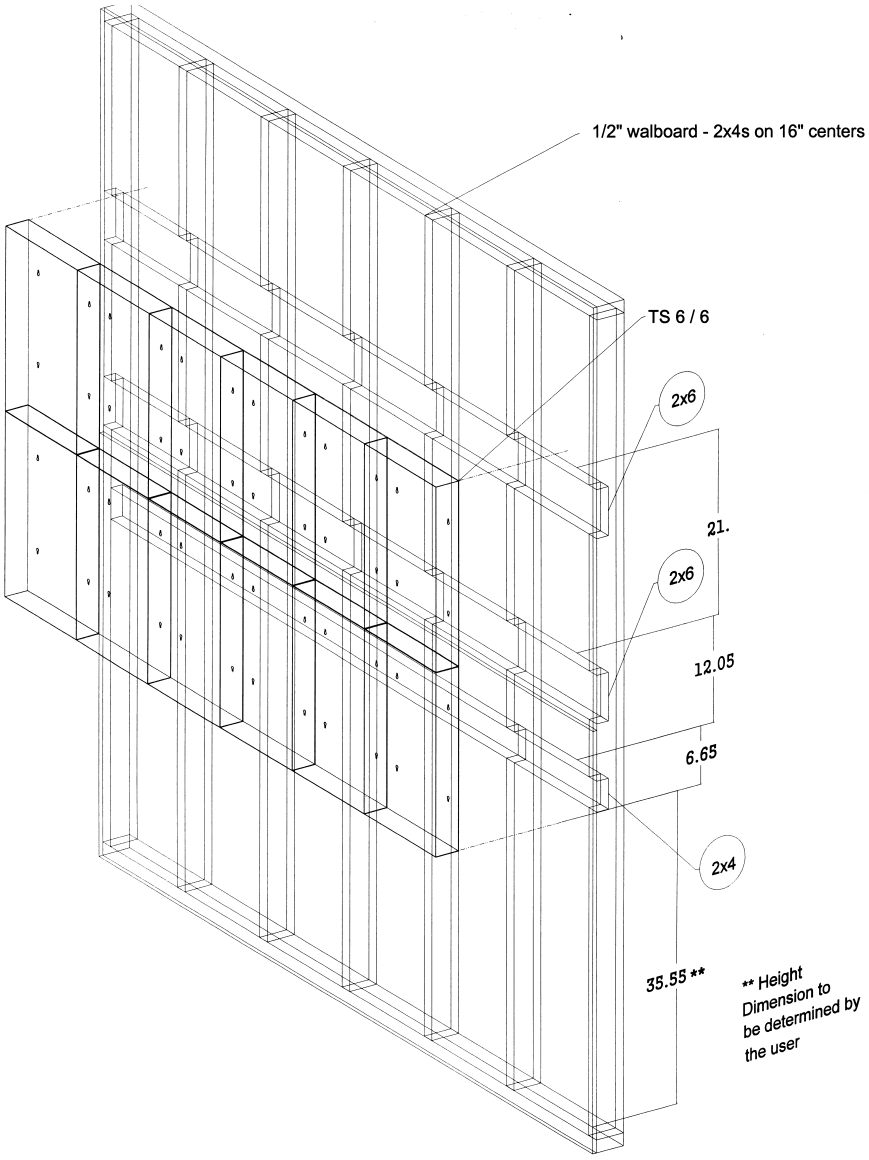
6.0 Installation and Mounting Instructions

6.1 Surface Mounting Installation Diagram (Example 6 over 6)

Cut sheets for all models are available on our web site www.maxant.com or Contact us directly.



6.2 Suggested Wall Structure Build Diagram for UL60601 Installation.

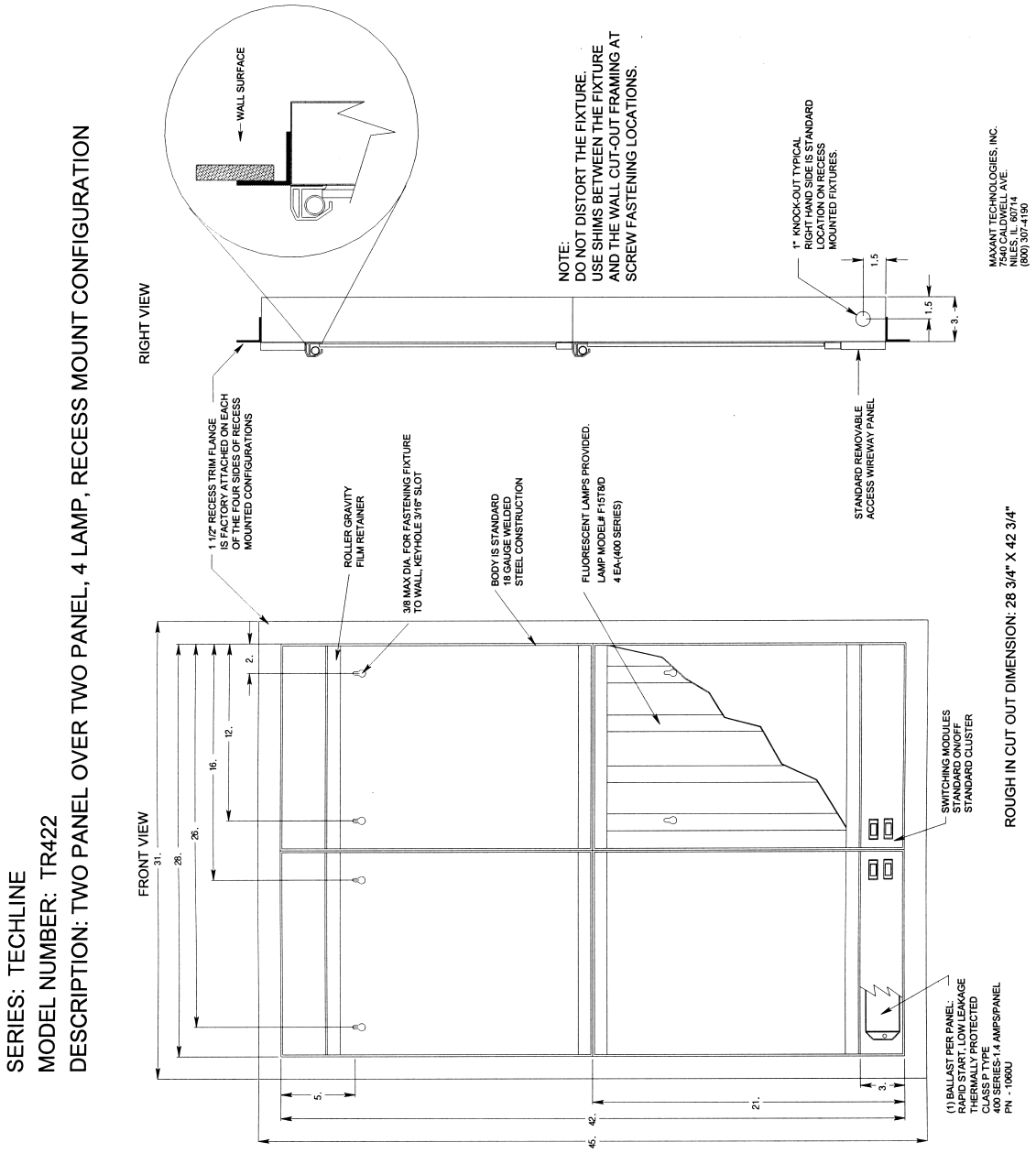


The wall shown is a standard wood frame wall made from 2x4's covered with ½" plaster wallboard. The cross pieces needed for mounting the illuminators are one 2x4 and two 2x6's. The vertical studs are notched to accept the cross pieces as shown in the diagram. Use #10 x 2 ½" deckboard countersunk head stainless steel screws to secure the cross pieces to the 2x4 wall. Use two screws per stud for the 2x6's and one screw per stud on the 2x4.

Attach illuminators to the wall using #8 x 1 ½" round or Phillips head wood screws and ¾" OD #8 fender washers. For single-tier units, use four screws per unit. For double-tier units, use two screws per unit on the upper tier and four screws per unit on the lower tier. As an alternate, use #8 high performance serrated thread screws for power drivers (a.k.a. SPAX and ABC types).

6.3 Recess Mounting Installation Diagram (Example of 2 over 2)

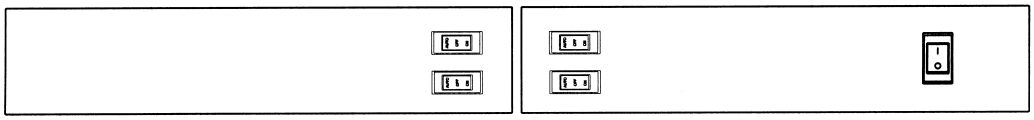
Cut sheets for all models are available on our web site www.maxant.com or contact us directly.



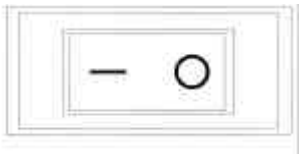
7.0 Operation of the TECHLINE Illuminators

7.1 Turning on the Lamps

TECHLINE illuminators are designed to provide a single switching area at the bottom center of all view box configurations. We call this “cluster switching”. TECHLINE illuminators can be operated using several switching methods. The following illustration provides examples of switch locations and operation of a two-panel over two-panel configuration. Optional dual intensity switches may not be clustered.

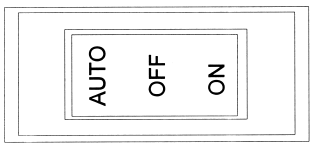


7.1.1 Standard Switching



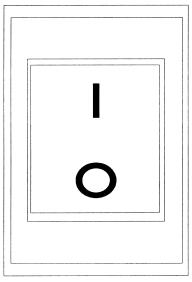
Standard switching provides a two-position “ON/OFF” rocker switch per panel. UL187/CSA114 products use a single pole/single throw switch.

7.1.2 Film Activated Switching



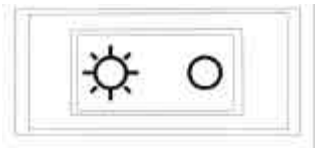
The film activated switch option utilizes a three-position rocker switch per panel. When the rocker switch is in the “AUTO” position, inserting film into the roller grip activates the lamps. Remove the film to turn off the lamps. The “ON” and “OFF” positions are absolute. The “ON” position will turn on the lamps and they will stay on until the switch is changed to the “OFF” position.

7.1.3 Master Switch



The master switch option provides a two-position “ON/OFF” rocker switch that controls the power to the entire fixture. A master switch is required for UL60601-1 certified fixtures. The master switch has two poles and disconnects both sides of the line from the main.

7.1.4 Dual Intensity Switching



The dual intensity option provides a two-position rocker switch that controls two levels of illumination (High/Low). There is one switch per panel so each panel may be controlled independently. Film activated switching is standard with the dual intensity option (see 7.1.2).

8.0 Internal Access and Maintenance

The unique design of the TECHLINE illuminator series allows for easy internal access for lamp replacement, ballast replacement and fixture maintenance.

WARNING – ALWAYS DISCONNECT THE POWER TO THE FIXTURE BEFORE ATTEMPING TO ACCESS THE UNIT INTERNALLY. DO NOT TOUCH THE LAMP SOCKET AND THE PATIENT AT THE SAME TIME.

8.1 Replacing Lamps

Carefully observe the Plexiglas diffusing panel. Note that the panel rests in the back groove of the bottom film ledge and its top fits into the film grip. To remove this panel, grasp the panel near the bottom on both sides and lift it up until it is above the lower film ledge. Then pull out the bottom of the Plexiglas until it clears the film ledge and move it down until it is clear of the film grip on top. **TO AVOID SCRATCHING THE PLEXIGLAS OR DAMAGING THE FILM SWITCH, AVOID SLIDING THE PLEXIGLAS OUT SIDEWAYS.** Carefully set the Plexiglas on one end and lean it against the wall.

Be sure to remove any extra shipping tape. The lamps are removed by simply pulling them towards you without any rotation. Replace the lamp by firmly pushing it forward until the lamp is seated in the socket. It is a good idea to replace all lamps even if only one has burned out to insure even illumination.

To replace the Plexiglas diffusing panel, align it with the sides of the housing and slide it up into the film grip. Then push the bottom of the Plexiglas into the film grip until it fits comfortably.

8.2 Replacing the Ballast

Disconnect your illuminator(s) from power. First, remove both the Plexiglas diffusing panel (as described in 8.1.) Remove the two screws found inside of the lamp housing to free the wire-way cover and remove the cover. Next, remove the hex nut securing the ballast to the fixture. Check your replacement ballast. It should have the same color wires as the ballast that is in the fixture. If it does not, you may have the wrong ballast. If the wire colors match,

cut the wires connecting the defective ballast to the illuminator, leave as much length as possible. Remove the defective ballast.

Insert the new ballast into position and secure it with the hex nut. Strip the wires you have cut. Attach each stripped wire to its corresponding color entrance on the new ballast. Tug on the connectors. The wires should stay firmly attached. Replace the wire-way cover and Plexiglas panel as described in 8.1. Connect the unit back to power turn it on.

8.3 Replacing Fuses (UL/EN 60601-1 only)

Disconnect the unit from the power source. Remove the Plexiglas defusing panel. Remove the two screws that hold the wire-way cover that contains the master switch (Usually the right most panel). Observe the two fuses mounted side by side. Test the fuses for conductivity and remove the fuse that is defective. **Replace the fuse with the specified size and type.** Replace the wire-way cover and the two screws. Replace the Plexiglas panel as describer in 8.1. Connect the unit back to power and turn it on.
IF THE FUSE BLOWS AGAIN, STOP AND DETERMINE WHAT THE CAUSE MAY BE BEFORE INSERTING ANOTHER FUSE.

8.4 General Maintenance

Routine maintenance on all illuminators is necessary for clean, unobstructed viewing equipment. The illuminator's interior and exterior surfaces and diffusing panels should be periodically wiped down with a soft cloth and a mild cleansing agent. **Do not use ammonia or abrasive cleaners because they will scratch and fade surfaces.** In the event the painted surfaces become scratched, please contact your local MAXANT dealer for touch-up paint.

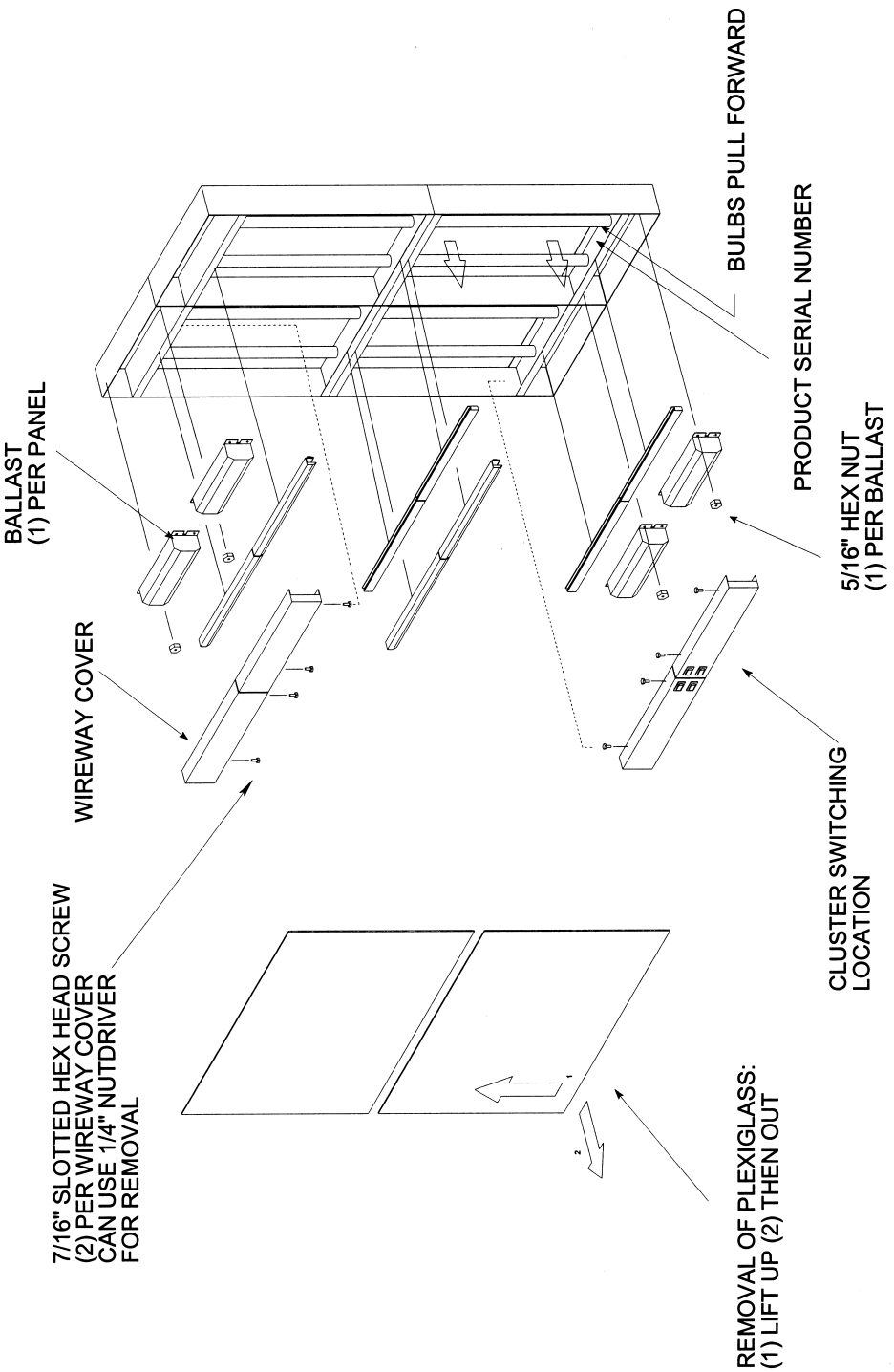
9.0 Trouble Shooting Guide

Note: Only trained and qualified personnel should gain access to the internal components to trouble shoot the equipment.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
No light in the entire fixture.	Blown fuse or open circuit breaker at the fuse box. CAUTION – THIS MAY BE AN INDICATION OF EITHER CIRCUIT OVERLOAD OR THAT A PROBLEM EXISTS ON THE CIRCUIT	Replace fuse or reset circuit breaker. Check for 117V 60 Hz at receptacle.
	Faulty power cord or plug	Gain access to the ballast compartment and verify connections between the line cord and the fixture.
		Check power cord or plug. If defective, replace or repair.
One panel will not light up.	All fluorescent lamps are burned out or broken	Replace fluorescent lamps.
	Faulty power switch for that panel	Check for 117 V at output side of the “ON/OFF” or “ON/OFF/AUTO” switch when in the “ON” position. If there is no voltage, replace the switch.
	Defective Film Activated Micro-Switch for that panel	With the power off, check that the switch is functioning. When the lever is depressed the contacts should short together.
		Verify that the micro-switch lever will activate the switch as it may be damaged or bent. The lever may be adjusted so that the switch is activated just before the lever hits the top of the film grip.
	Defective Ballast	Check for voltage (117V) on the ballast. If voltage is present and the lights still do not light, replace the ballast. If voltage is not found, repeat troubleshooting steps above.
One panel will not turn off.	Obstruction effecting the Film Activated Micro Switch	Check to make sure that the Plexiglas diffuser panel is all the way down in its groove. Check the film switch lever arm. If it is bent down too far, the plexiglas will cause it to turn on. Bend it back up.
		Check to make sure that the Film switch lever is not jammed against the top of the film grip.
Some of the lamps in one section fail to light.	Lamp burned out or loose connection between the ballast and the lamp holder	Replace burned out lamps. Replace all lamps at the same time in order to maintain even illumination. Check connections to lamp holders.
Some or all sections are slow to start or the lamps flicker when the fixture is on.	Poor or missing ground connection	Determine that a proper ground is coming into the fixture as well as the power receptacle. Verify that the ground prong on the plug is connected in the outlet.
	Air temperature in the room is below 50°F or air temperature blowing on the fixture is below 50°F	Increase the air temperature. Move illuminator away from air vents.
Individual lamps are slow to start in one section of the fixture.	Lamp is old and malfunctioning	Replace all lamps to maintain even illumination. Verify connections to the lamp holders.
Some sections are darker than others in the fixture.	Mixture of old and new lamps	Replace all lamps to even out the illumination.
	Mixture of cool white and daylight type lamps	Use only daylight type lamps in illuminators.

10. Replacement Parts List and Drawing

10.1 Expanded Drawing



10.2 Parts List

Part Name	Part Description	Part Type	MAXANT Item No.
Master Switch	Two position "ON/OFF' rocker switch	One style per fixture	1117
Film Activated Micro-Switch	"AUTO" micro-switch activates lamps when the film is inserted into the top film grip.	Micro-switch only	1307
"ON/OFF/AUTO" three position rocker switch	Three position SPDT switch with film activated switch option	One style per fixture	1121
"ON/OFF" two position rocker switch	Standard SPST "ON/OFF' rocker switch	One style per fixture	1122
High/Low intensity two position rocker switch	Allows for two levels of brightness.	One style per fixture	1116
Ballast 117V 60Hz	TECHLINE 200Series	Two Lamp	1039U
	TECHLINE 300 Series	Three Lamp	1045U
	TECHLINE 300 Series dual intensity	Three Lamp	1027R
	TECHLINE 400 Series	Four Lamp	1060U
	TECHLINE 400 Series dual intensity	Four Lamp	1061
Ballast 230V 50 Hz	TECHLINE 200Series	Two Lamp	1062
	TECHLINE 300 Series	Three Lamp	1063
	TECHLINE 300 Series dual intensity	Three Lamp	1064
	TECHLINE 400 Series	Four Lamp	1065
	TECHLINE 400 Series dual intensity	Four Lamp	1066
Roller Gravity Grip	Film holding system	One per panel	1292
Bottom Extrusion	Bottom plexiglas holder	One per panel	1270A
Plexiglas	Diffusing Panel	1 Panel Section	1601
		2 Panel Section	1602
		3 Panel Section	1603
		4 Panel Section	1604
		5 Panel Section	1605
		6 Panel Section	1606
Line cord assembly	Standard line cord	One style per fixture	1125
Line cord assembly	Hospital Grade (UL60601-1)	One style per fixture	1308
Lamp holders	Sockets for lamps	One style per fixture	1279
Fuse	1 amp	Two per fixture	1011
Fuse	2 amp	Two per fixture	1012
Fuse	3.15 amp	Two per Fixture	1015
Fuse	4.0 amp	Two per Fixture	1014
Fuse	6.3 amp	Two per Fixture	1016